

REMARKS

Claims 1-5, 11-14, 16, 19-26 and 31-32 are pending herein.

The present claims have been amended to clarify notable features of the present invention, particularly to recite a Czochralski method for growing single crystal spinel wafers, according to which a spinel single crystal boule is pulled from a melt. According to the claimed invention, the Czochralski method calls for pulling the spinel single crystal boule at a process aspect ratio not less than about 0.44. In addition, the boule is non-stoichiometric, having a b:a ratio greater than 1.5:1. The combined features of the non-stoichiometry and the claimed process aspect ratio of not less than about 0.44 are of notable consequence, contributing to successful formation of desirable [111] oriented boules. In this respect, the attention of the PTO is drawn to the Table provided on page 8 of the present specification, summarizing the success of [111] oriented boules utilizing the claimed method.

The several rejections based upon Schmidt in view of various several secondary references are moot in view of the amendments to the present claims. Schmidt does not disclose or even remotely suggest a Czochralski method in which a boule is pulled from a melt.

The rejections based upon Wyon et al. in view of several secondary references should also be withdrawn in view of the amendments to the present claims. The disclosure of Wyon et al. is limited to a process aspect ratio of about 4.17, nowhere discloses or even remotely suggests that process aspect ratio is a consequential processing parameter, and moreover, does not disclose or suggest increasing the process aspect ratio to be at a minimum of 0.44 as claimed. In addition, the disclosure of Wyon et al. is limited to slightly non-stoichiometric spinels. That is, as pointed out by the Examiner, Wyon et al. disclose partial substitution of Ni for Mg, shifting the spinel composition into a slightly Al-rich regime. The melt composition richest in Al appears to be Sample B, which corresponds to a b:a ratio of 1.08:1. Wyon et al. nowhere disclose or even remotely suggest a b:a ratio of not less than 1.5:1.

Accordingly, it is quite clear that the rejections based upon Wyon et al. are deficient and should be withdrawn.

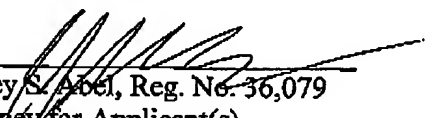
Applicants respectfully submit that the present application is now in condition for allowance. Accordingly, the Examiner is requested to issue a Notice of Allowance for all pending claims.

Should the Examiner deem that any further action by the Applicants would be desirable for placing this application in even better condition for issue, the Examiner is requested to contact Applicants' undersigned attorney at the number listed below.

The Commissioner is hereby authorized to charge any fees which may be required, or credit any overpayment, to Deposit Account Number 50-3797.

Respectfully submitted,

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Date


Jeffrey S. Abel, Reg. No. 36,079
Attorney for Applicant(s)
LARSON NEWMAN ABEL POLANSKY &
WHITE, LLP
5914 West Courtyard Drive, Suite 200
Austin, Texas 78730
(512) 439-7100 (phone)
(512) 327-5452 (fax)